Amendments to the Claims

Please amend the claims as follows:

1. (Original) An *in vivo* Raman endoscope comprising:

a probing fiber bundle having a distal end and a proximal end and comprising at least one illumination fiber and a plurality of collection fibers,

a short-pass filter on the distal end of said at least one illumination fiber,

a long-pass filter on the distal end of said plurality of collection fibers,

a filter adapter on the proximal end of said fiber bundle, comprising a band-pass filter in optical communication with said illumination fiber and a notch filter in optical communication with said plurality of collection fibers, and

a round-to-parabolic linear array fiber bundle in optical communication with said plurality of collection fibers through said notch filter.

2. (Original) The system of claim 1, wherein said short-pass filter comprises a coating on the distal end of said at least one illumination fiber.

3. (Original) The system of claim 2, wherein said short-pass filter has a cut-off wavelength

of about 825 nm.

4. (Original) The system of claim 1, wherein said long-pass filter comprises a coating on the distal end of said plurality of collection fibers.

5. (Original) The system of claim 4, wherein said long-pass filter has a cut-off wavelength of about 825 nm.

6. (Original) The system of claim 4, wherein said short-pass filter comprises a coating on the distal end of said at least one illumination fiber.

7. (Original) The system of claim 6, wherein said short-pass filter has a cut-off wavelength of about 825 nm and said long-pass filter has a cut-off wavelength of about 825 nm.

8. (Original) The system of claim 1, wherein said band-pass filter transmits in a range around 785 nm.

9. (Original) The system of claim 8, wherein said range is plus-or-minus 2.5 nm.

10. (Currently amended) The system of claim 1, wherein said notch filter has an optical density ~~OD~~ greater than 6.0 at 785 nm.

11. (Original) The system of claim 1, further comprising means for delivering illumination

light to said filter adapter and wherein said filter adapter further comprises a collimating lens between said means for delivering and said band-pass filter.

12. (Original) The system of claim 11, wherein said means for delivering comprises a laser.

13. (Original) The system of claim 11, further comprising a focusing lens between said band-pass filter and said illumination fiber.

14. (Original) The system of claim 1, wherein said filter adapter further comprises a collimating lens between said plurality of collection fibers and said notch filter.

15. (Original) The system of claim 14, further comprising a focusing lens between said notch filter and said round-to-parabolic linear array fiber bundle.

16. (Original) The system of claim 1, further comprising means for delivering illumination light to said filter adapter and said filter adapter further comprises a collimating lens between said means for delivering and said band-pass filter, a focusing lens between said band-pass filter and said illumination fiber, a collimating lens between said plurality of collection fibers and said notch filter, and a focusing lens between said notch filter and said round-to-parabolic linear array fiber bundle.

17. (Original) The system of claim 1, further comprising a quartz window at the distal end of said fiber bundle.

18. (Original) The system of claim 11, wherein said illumination light is chosen at a wavelength to induce Raman scattering.

19. (Original) The system of claim 18, wherein said illumination light is monochromatic.

20. (Currently amended) The system of claim 19, wherein said means for delivering illumination light ~~source~~ is a laser.

21. (Original) The system of claim 20, wherein said laser is a diode laser.

22. (Original) The system of claim 21, wherein said illumination light is about 785 nm.

23. (Currently amended) The apparatus of claim 1, further ~~An *in vivo* Raman endoscopic probe system,~~ comprising:

~~a probe comprising a probing fiber bundle having a distal end and a proximal end and comprising at least one illumination fiber and a plurality of collection fibers,~~

~~a short-pass filter on the distal end of said at least one illumination fiber,~~

~~a long-pass filter on the distal end of said plurality of collection fibers,~~

~~a filter adapter on the proximal end of said fiber bundle, comprising a band pass filter in optical communication with said illumination fiber and a notch filter in optical communication with said plurality of collection fibers,~~

~~a round-to-parabolic linear array fiber bundle in optical communication with said plurality of collection fibers through said notch filter,~~

~~a light source providing illumination light to said illumination fiber through said band-pass filter,~~

a spectrometer in optical communication with said plurality of collection fibers through said notch filter.

24-45. Canceled.

46. (Original) The system of claim 23, wherein the number and core diameter of said plurality of collection fibers are selected to fill the vertical height of a detector of said spectrometer.

47. (Currently amended) The system of claim 46 ~~43~~, wherein said detector is a CCD.

48-65. Canceled.

66. (New) An apparatus for *in vivo* Raman spectral measurements of a tissue, comprising:

a light source generating illumination light, said illumination light inducing a Raman signal from the tissue;

a filter adapter receiving said illumination light from said light source;

a fiber bundle assembly having a distal end and a proximal end, said fiber bundle assembly configured to pass through an instrument channel of an endoscope, said instrument channel having an entrance at a proximal end of said endoscope, said filter adapter being connected to said fiber bundle assembly close to said entrance of said instrument channel, said fiber bundle assembly comprising an illumination fiber and a plurality of collection fibers, said illumination fiber receiving said illumination light from said filter adapter, said plurality of collection fibers receiving said Raman signal from the tissue and said filter adapter receiving said Raman signal from said plurality of collection fibers, said filter adapter comprising a band-pass filter for said illumination light and a notch filter for said Raman signal;

a first-order filter on said distal end of said fiber bundle assembly, said first-order filter comprising a short-pass filter on said illumination fiber and a long-pass filter on said plurality of collection fibers; and

a round-to-parabolic linear array receiving said Raman signal from said filter adapter.

67. (New) The system of claim 66, wherein said short-pass filter comprises a coating on the distal end of said at least one illumination fiber.

68. (New) The system of claim 66, wherein said short-pass filter has a cut-off wavelength of about 825 nm.

69. (New) The system of claim 66, wherein said long-pass filter comprises a coating on the distal end of said plurality of collection fibers.

70. (New) The system of claim 66, wherein said long-pass filter has a cut-off wavelength of about 825 nm.

71. (New) The system of claim 69, wherein said short-pass filter comprises a coating on the distal end of said at least one illumination fiber.

72. (New) The system of claim 71, wherein said short-pass filter has a cut-off wavelength of about 825 nm and said long-pass filter has a cut-off wavelength of about 825 nm.

73. (New) The system of claim 66, wherein said band-pass filter transmits in a range around 785 nm.

74. (New) The system of claim 73, wherein said range is plus-or-minus 2.5 nm.

75. (New) The system of claim 66, wherein said notch filter has an optical density greater than 6.0 at 785 nm.

76. (New) The system of claim 66, wherein said filter adapter further comprises a collimating lens between said light source and said band-pass filter.

77. (New) The system of claim 76, wherein said light source comprises a laser.

78. (New) The system of claim 76, further comprising a focusing lens between said band-pass filter and said illumination fiber.

79. (New) The system of claim 66, wherein said filter adapter further comprises a collimating lens between said plurality of collection fibers and said notch filter.

80. (New) The system of claim 79, further comprising a focusing lens between said notch filter and said round-to-parabolic linear array fiber bundle.

81. (New) The system of claim 66, wherein said filter adapter further comprises a collimating lens between said light source and said band-pass filter, a focusing lens between said band-pass filter and said illumination fiber, a collimating lens between said plurality of collection fibers and said notch filter, and a focusing lens between said notch filter and said round-to-parabolic linear array fiber bundle.

82. (New) The system of claim 66, further comprising a quartz window at the distal end of said fiber bundle.

83. (New) The system of claim 66, wherein said illumination light is chosen to induce Raman scattering.

84. (New) The system of claim 83, wherein said illumination light is monochromatic.

85. (New) The system of claim 84, wherein said light source is a laser.

86. (New) The system of claim 85, wherein said laser is a diode laser.

87. (New) The system of claim 86, wherein said illumination light is about 785 nm.

88. (New) The system of claim 66, further comprising a spectrometer receiving said Raman signal from said plurality of collection fibers through said notch filter.

89. (New) The system of claim 88, wherein the number and core diameter of said plurality of collection fibers are selected to fill the vertical height of a detector of said spectrometer.

90. (New) The system of claim 89, wherein said detector is a CCD.

91. (New) The apparatus of claim 66, wherein said illumination fiber is metal coated.

92. (New) An apparatus for *in vivo* Raman spectral measurements, comprising:

a light source;

a filter adapter connected to said light source;

a fiber bundle assembly configured to pass through an instrument channel of an endoscope, said instrument channel having an entrance at a proximal end of said endoscope, said fiber bundle assembly comprising an illumination fiber and a plurality of collection fibers, said filter adapter comprising a band-pass filter for said illumination fiber and a notch filter for said plurality of collection fibers, said fiber bundle assembly having a distal end and a proximal end, said filter adapter being connected to said proximal end of said fiber bundle assembly at said entrance of said instrument channel;

a filter at said distal end of said fiber bundle assembly, said filter comprising a short-pass filter on a tip of said illumination fiber and a long-pass filter on distal tips of said plurality of collection fibers; and

a round-to-parabolic linear array connected to said filter adapter.

93. (New) The system of claim 92, wherein said short-pass filter comprises a coating on said illumination fiber.

94. (New) The system of claim 92, wherein said short-pass filter has a cut-off wavelength of about 825 nm.

95. (New) The system of claim 92, wherein said long-pass filter comprises a coating on said plurality of collection fibers.

96. (New) The system of claim 95, wherein said short-pass filter comprises a coating on said illumination fiber.

97. (New) The system of claim 96, wherein said short-pass filter has a cut-off wavelength of about 825 nm and said long-pass filter has a cut-off wavelength of about 825 nm.

98. (New) The system of claim 92, wherein said long-pass filter has a cut-off wavelength of about 825 nm.

99. (New) The system of claim 92, wherein said band-pass filter transmits in a range around 785 nm.

100. (New) The system of claim 99, wherein said range is plus-or-minus 2.5 nm.

101. (New) The system of claim 92, wherein said notch filter has an optical density greater than 6.0 at 785 nm.

102. (New) The system of claim 92, wherein said light source comprises a laser.

103. (New) The system of claim 102, wherein said laser is a diode laser.

104. (New) The system of claim 92, further comprising a spectrometer connected to said filter

adapter.

105. (New) The system of claim 104, wherein the number and core diameter of said plurality of collection fibers are selected to fill the vertical height of a detector of said spectrometer.

106. (New) The system of claim 105, wherein said detector is a CCD.

107. (New) The apparatus of claim 92, wherein said illumination fiber is metal coated.

108. (New) The apparatus of claim 1, wherein said illumination fiber is metal coated.